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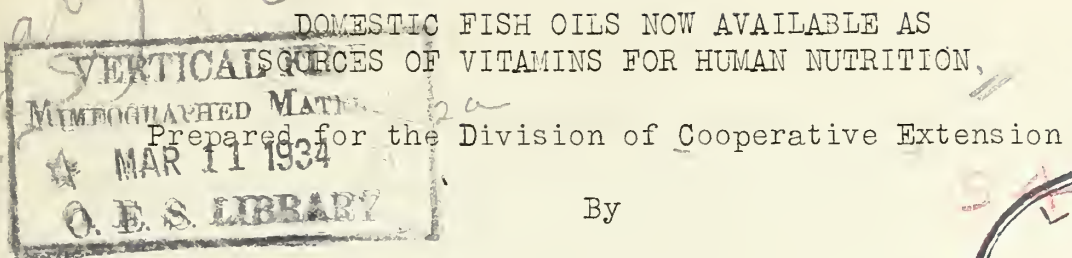
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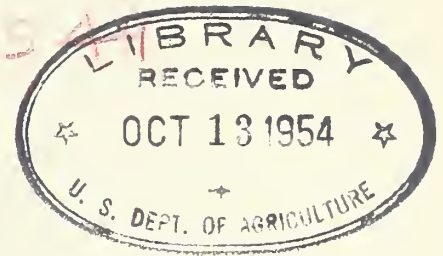
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Until a few years ago, cod-liver oil was the only fish oil available on our market as a source of vitamins for human nutrition and medicinal use. Since this country produces less than 10 percent of the cod-liver oil that it consumes, the foreign product enjoyed a virtual monopoly in this field.

Now, however, largely as a result of studies carried on since 1929 by technologists of the Bureau of Fisheries, in cooperation at first with the Bureau of Chemistry and Soils of the Department of Agriculture and later in its own nutrition laboratories, halibut-liver oil, tuna-liver oil, and burbot-liver oil now are actually available on the market for use in human nutrition, either as oils or as ingredients of concentrates. A company on the Pacific coast has been organized to produce salmon-liver oil for human nutrition. Various drug houses are buying all available swordfish livers and it is very likely that within a year salmon-liver oil and salmon oil, swordfish-liver oil, and possibly other fish-liver and fish oils will be available on the drug-store shelf, either in natural or concentrate form.

To illustrate the rapid growth of this industry, the following is quoted from page 45 of November 1934 issue of Pacific Fisherman, published at 71 Columbia Street, Seattle, Wash. "Discovery of vitamin potency of the liver oils from a number of Pacific fishes has been an astonishing development in the field until virtually all of the livers from the Pacific catch of halibut, sablefish, lingcod, and tuna, and a large percentage of the desirable salmon livers, are now utilized for the production of medicinal oils."

In addition to the oils mentioned above, California sardine or pilchard oil has made rapid strides in poultry nutrition. While no effort has been made by the manufacturers of this oil to develop it for medicinal use, largely because of its relatively low vitamin A potency, there is no reason why it could not be made available as a cheap source of vitamin D for human nutrition. Other domestic fish oils, such as menhaden oil and herring oil have been shown by technologists of the Bureau of Fisheries and other workers to be a potential source of vitamins, provided changes or improvements are made in existing methods of commercial production.

The annual production of fish oils in the United States is approximately 12,800,000 gallons. By far the greatest part of this production is a potential source of vitamin-bearing oils for nutritional use. The competition of other fish oils has brought ^{about} a much more favorable price level for cod-liver oil, so that the consumption of all these oils has greatly increased, both in human and animal nutrition. We understand that medicinal cod-liver oil, meeting USP standards, is now selling in chain drug stores for about 50 cents a pint, and it is believed that on the basis of vitamin units, prices are fairly well equalized among the competing oils and concentrates.

Under no circumstances should an oil intended for use as a source of vitamins be purchased unless it has been biologically assayed for its vitamin content. The purchase should be made on the basis of the vitamin units shown in the biological assay.

Because of rapid changes taking place in the vitamin field, and because it would be difficult to give a complete list of producers and dealers handling biologically tested oils, no names are given here. However, such trade lists may be obtained from the Bureau of Fisheries, which endeavors to keep them reasonably up-to-date.

Following is a selected list of publications of the Bureau of Fisheries dealing with fish oils for human nutrition.

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